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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/878,138	MOORE ET AL.	
	Examiner	Art Unit	
	Zhuo H Li	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-115* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5,6,8,9,20,21,23,24,31-46 and 113-115* is/are allowed.

6)☒ Claim(s) *1-4,7,10-19,22,25-30 and 47-112* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *September 2, 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed 8/9/2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 7, 10-15, 22, 25-30, 64, 66, 68-74, 76-86, 90-96 and 110-112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US PAT. 5,832,263 hereinafter Hansen).

Regarding claim 1, Hansen discloses a method for storing data in a write-once memory device, the method comprising storing data in a write-once memory device during a second session (col. 4 lines 28-42), i.e., recorded the new information which supplement the information recorded in the non-modifiable store, storing a second set of file system structures for the write-many file system, i.e., tracking store, in the write-once memory device, the second set of file system structures being associated with the data stored in the write-once memory device during both the first and second sessions (col. 4 line 66 through col. 5 line 21 and col. 5 line 65 through col. 6 line 12), storing a pointer to a memory address storing a file system structure of second set

of file system structures in the write-once memory device (col.7 line 34 through col. 8 line 4), although Hansen does not clearly teaches the way to store data in the write-once memory device during a first session, and the way to store a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session. Hansen teaches when a read requested was generated by agent/requestor, it searches the tracking store to determine if any portion of requested should be retrieved, and fetches entries from tracking store which intersect with the storage area of the requested information, and partitions the requested into pieces which can be satisfied from the tracking store and pieces which are to be retrieved from the non-modifiable store (col. 3 line 65 through col. 4 line 16 and col. 6 lines 13-30), in addition, Hansen teaches the modified information is in modifying the exciting information stored in the non-modifiable store area which indicated by the tracking store, (col. 4 lines 30-42, col. 6 lines 52-67 and col. 7 line 45 through col. 8 line 4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize the storing method of Hansen in having the steps of storing data in the write-once memory device during a first session, and storing a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session.

Regarding claim 7, Hansen discloses the method further comprising storing an additional pointer to a memory address storing an additional file system structure of the second set of file system structure (col. 7 line 1 through col. 8 line 4), i.e., tracking store further comprising a location information (84, figure 50), wherein the location information further including a pointer

for the location within the file, and the pointer is stored when the file is opened and updated as needed to allow reads and writes to retrieve and modify data, and each data structure includes a corresponding location pointer (106, figure 6).

Regarding claim 10, Hansen discloses the method further comprising storing first and second sets of file system structures for a write-once file system, i.e., tracking store, in the write-once memory device, the first set being associated with the data stored in the write-once memory device during the first session, and the second set being associated with the data stored in the write-once memory device during both the first and second sessions (col. 7 lines 1-44).

Regarding claim 11, Hansen discloses the method further comprising removing the write-once memory device from a data storage device between the first and second sessions (col. 5 lines 31-50).

Regarding claims 12-14, Hansen discloses the method comprising the steps d or e in claim 1 are performed by a controller, i.e., In-Place Modifier module (42, figure 3), hardware and software in a data storage device, i.e., CD-ROM, (col. 4 lines 43-65, col. 5 lines 51-64 and col. 6 lines 42-51).

Regarding claim 15, Hansen discloses a method for reading data in a write-once many memory device using a write-many file system, i.e., tracking store, the method comprising providing a write-once memory device and a reading device, i.e., user/agent, wherein the reading device uses a write-many file system (col. 3 line 62 through col. 4 line 16 and col. 6 lines 13-30), and wherein the write-once memory device comprises data stored during first and second sessions, a first set of file system structures for the write-many file system, the first set of file system structures being associated with the data stored during the first session, a second set of

file system structures for the write-many file system, the second set of file system structures being associated with the data stored during the first and second sessions (col. 7 line 45 through col. 8 line 4), a pointer to memory address storing a file system structure of the second set of file system structures (col. 7 lines 34-60), sending a command from the reading device to read a memory address of the write-once memory device, wherein the write-many file system expects the memory address to contain a file system structure, i.e., root directory (col. 6 lines 52-67), associated with the data stored during both firs and second sessions and wherein the memory address differs from the memory address indicated by the pointer (col. 7 line 1 through col. 8 line 4), i.e., tracking store further comprising a location information (84, figure 50), wherein the location information further including a pointer for the location within the file, and the pointer is stored when the file is opened and updated as needed to allow reads and writes to retrieve and modify data, and each data structure includes a corresponding location pointer (106, figure 6), and returning the file system structure stored in the memory address indicated by the pointer instead of data stored in the memory address request by the reading device (col. 3 line 62 through col. 4 line 16). Although Hansen does not clearly teaches the way to store data in the write-once memory device during a first session, and the way to store a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session. Hansen teaches when a read requested was generated by agent/requestor, it searches the tracking store to determine if any portion of requested should be retrieved, and fetches entries from tracking store which intersect with the storage area of the requested information, and partitions the requested into pieces which can be satisfied from the tracking store and pieces which are to

be retrieved from the non-modifiable store (col. 3 line 65 through col. 4 line 16 and col. 6 lines 13-30), in addition, Hansen teaches the modified information is in modifying the exciting information stored in the non-modifiable store area which indicated by the tracking store, (col. 4 lines 30-42, col. 6 lines 52-67 and col. 7 line 45 through col. 8 line 4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize the storing method of Hansen in having the steps of storing data in the write-once memory device during a first session, and storing a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session.

Regarding claim 22, the limitation of the claim are rejected as the same reasons set forth in claim 7.

Regarding claim 25, the limitation of the claim are rejected as the same reasons set forth in claim 10.

Regarding claim 26, Hansen discloses the method for reading data in a write-once memory device wherein the memory device comprises a controller, i.e., in-place modifier (42, figure 3) and a register, a table or map, (col. 5 lines 5-21), wherein the pointer is stored in a memory array of the memory device, and further comprises with the controller reading the pointer stored in the memory array based upon the requested from agent (48, figure 3), storing the pointer in the register, and reading the memory location indicated by the pointer stored in the register instead of the memory address requested by the reading device (col. 7 line 1 through col. 8 line 4).

Regarding claim 27, Hansen discloses the method for reading data in a write-once memory device wherein the pointer is read using a temporal-to-spatial mapping technique (col. 6 line 42 through col.7 line 43).

Regarding claims 28-30, the limitation of the claims are rejected as the same reasons set forth in claims 12-14.

Regarding claim 64, the limitation of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 66, Hansen discloses a method for storing data and file system structures of a write-many file system, i.e., tracking store, in a memory device, the method comprising providing a memory device (40, figure 3) comprising both a write-once memory array (44, figure 3) and a write-many memory array (46, figure 3), wherein the memory device further comprises an electrical connector operative to couple with a mating electrical connector of a data storage device (48, figure 3 and col. 5 line 51 through col. 6 line 12), storing data in a write-once memory array, i.e., non modifiable store, of a memory device, and storing a file system structures of a write-many file system in a write-many memory array of the memory device (col. 6 line 42 through col. 7 line 22 and col. 7 line 33 through col. 8 line 4). Although Hansen does not specifically teaches the memory device being a handheld memory device, Hansen also teaches the memory devices including CD-ROMs, WORM media and device, write protected diskettes (col. 3 lines 53-57) so that one skill in the art would recognizes the memory device being the handheld memory device.

Regarding claim 68, Hansen disclose a method for storing data and file system structures of a write-many file system wherein the file system structure is selected from the group

consisting of a master boot record, a partition boot record, a file allocation table, and a root directory (col. 6 lines 42-67).

Regarding claim 69, Hansen discloses a method for storing data and file system structures of a write-many file system further comprising storing a file system structure, tracking store, of a write-once file system, non modifiable store, in the write-once memory array, i.e., CD-ROM, (col. 7 line1 through col. 8 line 4).

Regarding claim 70, Hansen discloses a method for storing data and file system structures of a write-many file system further comprising storing additional data, i.e., modified data/new file data, in the write-once memory array (col.4 lines 29-42 and col. 5 line 65 through col. 6 line 12), re-writing the file system structure stored in the write-many memory array (col. 7 line1 through col. 8 line 4).

Regarding claims 71-73, Hansen disclose a method for storing data and file system structures of a write-many file system wherein at least one of steps a and b is performed by a controller, i.e., In-Place Modifier module (42, figure 3) in the memory device, i.e., CD-ROM, a hardware in a data storage device, and software in a data storage device (col. 4 lines 43-65, col. 5 lines 51-64 and col. 6 lines 42-51).

Regarding claim 74, Hansen discloses a method for reading data in a memory device (40, figure 3) using a write-many file system, i.e., tracking store, the method comprising providing a memory device and a reading device, i.e., user/agent (48, figure 3), wherein the reading device uses a write-many file system, i.e., tracking store, and wherein the memory device comprises both a write-once memory device (44. figure 3) and a write-many memory array (46, figure 3), the write-once memory array, i.e., non-modifiable store, storing data and a write-many memory

array storing a file system structure of a write-many file system (col. 4 lines 17-42 and col. 6 line 42 through col. 7 line 22), reading the file system structure of the write-many file system stored in the write-many memory array, and reading the data stored in the write-once memory array, wherein the memory device further comprises an electrical connector operative to couple with a mating electrical connector of the reading device (col. 3 line 52 through col. 4 line 16, col. 5 line 51 through col. 6 line 30 and col. 7 lines 34-60). Although Hansen does not specifically teaches the memory device being a handheld memory device, Hansen also teaches the memory devices including CD-ROMs, WORM media and device, write protected diskettes (col. 3 lines 53-57) so that one skill in the art would recognizes the memory device being the handheld memory device.

Regarding claim 76, the limitation of the claim are rejected as the same reasons set forth in claim 68.

Regarding claim 77, Hansen discloses a method for reading data in a memory device further comprising reading a file system structure of a write-once file system from the write-once memory array (col. 6 lines 13-30 and col. 7 lines 1-60).

Regarding claims 78-80, the limitation of the claims are rejected as the same reasons set forth in claims 71-73.

Regarding claims 81-82, Hansen discloses a method of reading and writing data in a write-once read many memory wherein the pointer is stored in a table, i.e., tracking store, and the pointer is stored in a field associated with a sector data (col. 6 lines 47-60 and figure 6).

Regarding claims 83-84, although Hanson does not clearly discloses the memory array comprising a three-dimensional and/or two -dimensional memory array, Hanson teaches the write-once memory disk, i.e., optical disk comprising a non-modifiable store which comprising a

plurality of entries wherein each entry including base file information (104, figure 6), a location pointer (106, figure 6), and a list of modification entries (col. 7 lines 47-60), in addition, the write-once memory disk of Hanson further comprising a directory, i.e., tracking store, which storing the file structure of each entry stored in the non-modifiable store (col. 4 line 66 through col. 5 line 21 and col. 7 line 1-22). Thus, one skill in the art recognizes the write-once memory disk of Hanson is a three-dimensional and/or two -dimensional memory arrays.

Regarding claim 85-86, Hansen discloses a method of reading and writing data in a write-once read many memory wherein the write-once memory comprising a solid-state memory device, i.e., writable area (col. 5 lines 12-21 and col. 6 lines 52-67), and an optical memory device (col. 3 lines 46-60).

Regarding claim 90-91, although Hanson does not clearly discloses the write-many memory array comprise an electrically-erasable programmable read-only memory and flash memory, Hanson teaches the tracking store, i.e., write-many memory arable, is able to either archived or deleted once the new non modifiable store is installed (col. 5 lines 12-21). Thus, one skill in the art recognizes the write-once memory disk of Hanson is an electrically erasable programmable read-only memory and flash memory.

Regarding claim 92, the limitation of the claim are rejected as the same reasons set forth in claim 15.

Regarding claims 93-96, the limitation of the claims are rejected as the same reasons set forth in claims 12-14.

Regarding claims 110-112, Hanson teaches write-once memory array comprising CD-ROMs, WORM media and device, write protected diskettes (col. 3 lines 53-57) so that one skill

in the art would recognizes the write-once memory array comprising an optical memory device, a memory card or a memory stick.

4. Claims 2, 16-17, 47-54, 57-63, 65, 67, 75, 87-89, and 97-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US PAT. 5,832,263 hereinafter Hansen) in view of Mahajan (US PAT. 5,437,012).

Regarding claim 2, Hansen differs from the claimed invention in not specifically teaches the method wherein the write-many file system comprises a DOS FAT file system. However Mahajan teaches in the write once/read many memory (1, figure 1) includes card directory (30, figure 3) and card data area (31, figure 3) wherein card data area stores user data and the card directory stores file structure information which corresponding to data stored in the card data area, in addition, the card directory further comprising updatable directory field with next sector information for allocating an available sector for the data, and start-of-file-table for each file start (col. 4 line 54 through col. Col. 5 line 8 and col. 5 line 30 through col. 6 line 43). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the write-many file system in the write-once read many device comprises a DOS FAT file system, as per teaching of the WORM card in Mahajan, because it increases the accessing speed of the memory by to quickly identify the start of the extent, the size of the extent, and the location of the next extent for the file.

Regarding claim 16, the limitation of the claim are rejected as the same reasons set forth in claim 2.

Regarding claim 17, Hansen differs from the claimed invention in not specifically teaches the method for reading data in a write-once memory device comprises sending a command from the reading device to read memory address zero. However, Mahajan teaches such (col. 6 lines 7-65). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to the write-once memory device of Hansen in having a step of sending a command from the reading device to read memory address zero, as per teaching of the WORM card in Mahajan, because it increases the accessing speed of the memory by to quickly identify the start of the extent, the size of the extent, and the location of the next extent for the file.

Regarding claim 47, Hansen discloses a method for storing data in a write-once memory device, the method comprising storing data in a write-once memory device during a second session (col. 4 lines 28-42), i.e., recorded the new information which supplement the information recorded in the non-modifiable store, storing a root directory (figure 4 and col. 6 lines 52-67) for the write-many file system, i.e., tracking store, in the write-once memory device, the second set of file system structures being associated with the data stored in the write-once memory device during both the first and second sessions (col. 4 line 66 through col. 5 line 21 and col. 5 line 65 through col. 6 line 12), storing a pointer to a memory address storing a file system structure of second set of file system structures in the write-once memory device (col.7 line 34 through col. 8 line 4), connecting the write-once memory device to a reading device, i.e., user/agent, sending a command from the reading device to read the memory address that the reading device expects to find the root directory (col. 7 line 1 through col. 8 line 4), i.e., tracking store further comprising a location information (84, figure 50), wherein the location information further including a pointer for the location within the file, and the pointer is stored when the file is opened and updated as

needed to allow reads and writes to retrieve and modify data, and each data structure includes a corresponding location pointer (106, figure 6), returning the root directory stored in the memory addresses indicated by the pointers instead of data stored in the memory addresses requested by the reading device (col. 3 line 62 through col. 4 line 16), although Hansen does not clearly teaches the way to store data in the write-once memory device during a first session, and the way to store a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session. Hansen teaches when a read requested was generated by agent/requestor, it searches the tracking store to determine if any portion of requested should be retrieved, and fetches entries from tracking store which intersect with the storage area of the requested information, and partitions the requested into pieces which can be satisfied from the tracking store and pieces which are to be retrieved from the non-modifiable store (col. 3 line 65 through col. 4 line 16 and col. 6 lines 13-30), in addition, Hansen teaches the modified information is in modifying the exciting information stored in the non-modifiable store area which indicated by the tracking store, (col. 4 lines 30-42, col. 6 lines 52-67 and col. 7 line 45 through col. 8 line 4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize the storing method of Hansen in having the steps of storing data in the write-once memory device during a first session, and storing a first set of file system structures for a write-many file system in the write-once memory device, the firs set of file system structures being associated with the data stored in the write-once memory device during the first session. Hansen differs from the claimed invention in not specifically teaches first set of file system structures is a DOS FAT file system and the reading

device to read the memory addresses is expected to find the file allocation table and returning the file allocation table stored in the memory addresses indicated by the pointers instead of data stored in the memory address requested by the reading device. However, Mahajan teaches in the write once/read many memory (1, figure 1) includes card directory (30, figure 3) and card data area (31, figure 3) wherein card data area stores user data and the card directory stores file structure information which corresponding to data stored in the card data area, in addition, the card directory further comprising updatable directory field with next sector information for allocating an available sector for the data, and start-of-file-table for each file start (col. 4 line 54 through col. Col. 5 line 8 and col. 5 line 30 through col. 6 line 43). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the first set of file system structures is comprising a DOS FAT file system and the reading device to read the memory addresses is expected to find the file allocation table and returning the file allocation table stored in the memory addresses indicated by the pointers instead of data stored in the memory address requested by the reading device, as per teaching of the WORM card in Mahajan, because it increases the accessing speed of the memory by to quickly identify the start of the extent, the size of the extent, and the location of the next extent for the file.

Regarding claims 48-50, Hansen discloses the method step of E in claim 47 is performed by a controller, i.e., In-Place Modifier module (42, figure 3), in the write once memory device, and is performed by hardware and software in a data storage device storing the second set of file system structures in the write-once memory device (col. 5 line 31 through col. 6 line 12).

Regarding claims 51-53, the limitation of the claims are rejected as the same reasons set forth in claims 12-14.

Regarding claim 54, the limitation of the claim are rejected as the same reasons set forth in claim 47.

Regarding claim 57, Mahajan discloses the method for reading data in the write-once memory device wherein the at least one of the second set of file system structures comprises an up-to-date file allocation table and root directory and wherein at least one of the first set of file system structures comprises an out-of data file allocation table and root directory (col. 6 line 7 through col. 7 line 51).

Regarding claims 58-60, the limitation of the claims are rejected as the same reasons set forth in claims 48-50.

Regarding claims 61-63, the limitation of the claims are rejected as the same reasons set forth in claims 12-14.

Regarding claim 65, Hansen differs from the claimed invention in not specifically teaches the method for reading data in the write-once memory device further comprising locating the second set of file system structures by locating an adjacent set of available memory cells of a fixed offset. However Mahajan teaches such (col. 6 line 7 through col. 7 line 40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the write-once memory device further comprising locating the second set of file system structures by locating an adjacent set of available memory cells of a fixed offset, as per teaching by the WORM card in Mahajan, because it increases the accessing speed of the memory by to quickly identify the start of the extent, the size of the extent, and the location of the next extent for the file.

Regarding claim 67, the limitation of the claim are rejected as the same reasons set forth in claim 2.

Regarding claim 75, the limitation of the claim are rejected as the same reasons set forth in claim 2.

Regarding claims 87-88, Mahajan discloses a data storage device, i.e., optical memory card (1, figure 3) stores the data in the write-once memory device, and wherein the data storage device comprises a device selected from a general-purpose computer, i.e., optical drive (col. 3 lines 9-68), and a data reading device, i.e., PC, comprises a device selected from a general-purpose computer (col. 3 lines 9-68). The difference between Mahajan and the claims is the claims specifically recite the data storage device comprises a device and the data reading device are both selected from the group consisting of a digital audio player, a digital audio book, an electronic book, a digital camera, a game player, a persona digital assistant, a portable telephone, a printer and a projector. However, having various of data reading devices do not have a disclosed purpose nor are this data reading devices to overcome any deficiencies in the prior art. As such, data reading device would be have been any of devices that capable to general a memory access operation. In addition, since Mahajan discloses a central processing unit is able to general memory access operation, such as reading the stored data and updating a stored data in the write-once memory device of the storage device via the device drive as mention above. Accordingly, it would have been an obvious matter of design choice to utilize the system of Mahajan wherein the data reading device is a CPU, as disclosed supra, since applicants have not discloses that a device selected from the group consisting of a digital audio player, a digital audio book, an electronic book, a digital camera, a game player, a personal telephone, a printer and a

projector, as opposed to other special functionaries, overcomes a deficiency in the prior art or is for any stated purpose.

Regarding claim 89, Mahajan discloses the data stored in at least one of the first or second sessions comprises data selected from the group consisting of digital music, digital audio, digital video, at least one digital still image, a sequence of digital images, digital books, digital text, a digital map, games, software, or nay combination thereof (col. 1 lines 19-31).

Regarding claim 97, Hanson differs from the claimed invention in not specifically teaches a method for re-directing data traffic in a write-once memory device wherein a pointer stored in the memory device is used to re-map the first address to the second address. However Mahajan teaches such (col. 5 line 30 through col. 6 line 65). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the write-once memory device in having a pointer stored in the memory device is used to re-map the first address to the second address, as per teaching by the WORM disc of Mahajan, because it increases the accessing speed of the memory by to quickly identify the start of the extent, the size of the extent, and the location of the next extent for the file.

Regarding claims 98-99, Hansen discloses a method of for re-directing data traffic in a write-once read many memory wherein the pointer is stored in a table, i.e., tracking store, and the pointer is stored in a field associated with a sector data (col. 6 lines 47-60 and figure 6).

Regarding claims 100-103, Hansen discloses the method comprising the steps d or e in claim 1 are performed by a controller, i.e., In-Place Modifier module (42, figure 3), hardware and software in a data storage device, i.e., CD-ROM, (col. 4 lines 43-65, col. 5 lines 51-64 and col. 6 lines 42-51).

Regarding claim 104, Mahajan discloses a method for re-directing data traffic in a write-once memory device wherein the file system structure comprises a file allocation table (col. 4 line 54 through col. Col. 5 line 8 and col. 5 line 30 through col. 6 line 43).

Regarding claims 105-106, Hanson discloses a method for re-directing data traffic in a write-once memory device wherein the file system structure comprises a root directory and a sub-directory (figure 4 and col.6 lines 42-67).

5. Claims 3-4 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US PAT. 5,832,263 hereinafter Hansen) in view of Jeon (US PAT. 6,000,023).

Regarding claims 3-4, Hansen differs from the claimed invention in not specifically teaches the method for storing data in a write-once memory device comprises storing a pointer to a memory address storing a master and partition boot record. However, Jeon teaches the hard disk is divided into two partitions, and the first and second partitions both includes a boot sector for storing a loading program of an operating system and the data file series (col.2 line 54 through col. 3 line 9 and col. 4 line 55 through col. 5 line 1). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the a write-once memory device comprises storing a pointer to a memory address storing a master and partition boot record, as per teaching by the hard disk of Jeon, because it reduces the testing time of the computer system when the hard disk with an overlapped partition structure.

Regarding claims 18-19, the limitation of the claims are rejected as the same reasons set forth in claims 3-4.

6. Claims 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US PAT. 5,832,263 hereinafter Hansen) in view of Mahajan (US PAT. 5,437,012) as applied to claim 54 above, and further in view of Jeon (US PAT. 6,000,023).

Regarding claims 55-56, the combination of Hansen and Mahajan differs from the claimed invention in not specifically teaches the method for reading data in the write-once memory device wherein the at least one of the second set of file system structures comprises an up-to-data master/partition boot record and wherein at least one of the first set of file system structures comprises an out-of-date master/partition boot record. However, Jeon teaches the hard disk is divided into two partitions, and the first and second partitions both includes a boot sector for storing a loading program of an operating system and the data file series (col.2 line 54 through col. 3 line 9 and col. 4 line 55 through col. 5 line 1). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the a write-once memory device of the combination of Hansen and Mahajan in having wherein the at least one of the second set of file system structures comprises an up-to-data master/partition boot record and wherein at least one of the first set of file system structures comprises an out-of-date master/partition boot record, as per teaching by the hard disk of Jeon, because it reduces the testing time of the computer system when the hard disk with an overlapped partition structure.

7. Claims 107-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US PAT. 5,832,263 hereinafter Hansen) in view of Friedman et al. (US PAT. 6,584,541 hereinafter Friedman).

Regarding claim 107-112, Hanson teaches write-once memory array comprising CD-ROMs, WORM media and device, write protected diskettes. Hansen differs from the claimed invention in not specifically teaching the write-once memory array comprising a three-dimensional memory array, two- dimensional memory array or a solid-state memory device. However, Friedman teaches a write-once memory array comprising a solid-state memory array having a wide variety of memory array that responds to electrical read signal and write signal in order to make efficient in use of the write-once memory (col. 2 liens 45-53 and col. 4 lines 24-29). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanson in having the write-once memory array comprising a three-dimensional memory array, two- dimensional memory array or a solid-state memory device, as per teaching of Friedman, in order to make efficient in use of the write-once memory.

Allowable Subject Matter

8. Claims 5-6, 8-9, 20-21, 23-24, 31-46 and 113-115are allowed.

Response to Arguments

9. Applicant's arguments filed 8/9/2004 have been fully considered but they are not persuasive.

In response to applicant's argument that Hansen does not teaches storing file system structures in a write-once memory device, Hansen clearly teaches to record new information in the non-modifiable store and to keep a file structure for a tracking store in each non-modifiable store during operation (col. 4 lines 28-42 and col. 6 lines 42-51). Thus, Hansen teaches the file

system structure being stored in the write-once memory device. As a result, Hansen is enough to reject claims 1, 15, 47, 54, 64 and 92.

10. Applicant's arguments with respect to claims 66 and 74 and the corresponding dependent claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhuo H. Li whose telephone number is 571-272-4183. The examiner can normally be reached on Tuesday to Friday from 9:30 a.m. to 7:00 p.m. The examiner can also be reached on alternate Monday

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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